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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/022,706	12/17/2001	Michael G. Harris	772490100015	6249

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EXAMINER	
RAYFORD, SANDRA M	

ART UNIT	PAPER NUMBER
1772	

DATE MAILED: 02/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/022,706	HARRIS ET AL.	
	Examiner	Art Unit	
	Sandra M. Nolan	1772	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2004*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4, 6-15, 20-23, 25, 26, 28 and 41-50* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4, 6-15, 20-23, 25, 26, 28 and 41-50* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claims

1. Claims 1-4, 6-15, 20-23, 25-26, 28 and 41-50 are rejected. Claims 5, 16-19, 24, 27, and 29-40 have been cancelled.

Response Acknowledged

2. Applicants' 16 December 2004 response ("the last response') to the 04 November 2004 office action ("the last office action") is acknowledged.

Withdrawal of Finality and Rejections

3. The finality of the last office action is hereby withdrawn in order to apply the new grounds of rejection below.

4. All of the rejections set out in the last office action are withdrawn in order to apply the new objections/rejections below.

Summary of Claims

5. At the request of her supervisor, the examiner is summarizing the base claims now under consideration in this application.

Claim 1 covers a melt-blended polyethylene (PE) composition comprising:

-a first high density PE (HDPE) with a melt flow index (MFI) of 0.01 to 0.2 and a density of 0.941 to 0.958 g/cm^2;

-a second HDPE with an MFI of 0.1 to 1.5 and a density of 0.957 to 0.970 g/cm^2; and

a third PE selected from the group consisting of: linear low density PE's, linear medium density PE's, and mixtures thereof,

with the resins being present in the compositions in amounts such that the composition has a density of 0.945 to 0.960 g/cm^2, an MFI of 0.1 to 0.4 and a stress crack resistance of ≥24 hours.

Claim 20 covers a melt-blended polyethylene (PE) composition comprising:

-a high molecular weight high density PE (HDPE) with a melt flow index (MFI) of 0.01 to 0.2 and a density of 0.941 to 0.958 g/cm^2;

-a homopolymer HDPE with an MFI of 0.1 to 1.5 and a density of 0.957 to 0.970 g/cm^2; and

-at least one added PE selected from the group consisting of: linear low density PE's, linear medium density PE's, and mixtures thereof,

with the resins being present in the compositions in amounts such that the composition has a density of 0.945 to 0.960 g/cm^2, an MFI of 0.1 to 0.4 and a stress crack resistance of ≥24 hours.

Claim 26 covers a plastic article comprising a melt-blended polyethylene (PE) composition comprising:

-a high molecular weight high density PE (HDPE) with a melt flow index (MFI) of 0.01 to 0.2 and a density of 0.941 to 0.958 g/cm^2;

-a homopolymer HDPE with an MFI of 0.1 to 1.5 and a density of 0.957 to 0.970 g/cm^2; and

-at least one added PE selected from the group consisting of: linear low density PE's, linear medium density PE's, and mixtures thereof,

with the resins being present in the compositions in amounts such that the composition has a density of 0.945 to 0.960 g/cm^2, an MFI of 0.1 to 0.4 and a stress crack resistance of ≥24 hours.

Claim 41 covers a method for making a PE composition comprising [the step of?]: melt blending:

-a sufficient amount of a first high density PE (HDPE) with a melt flow index (MFI) of 0.01 to 0.2 and a density of 0.941 to 0.958 g/cm^2;

-a second HDPE with an MFI of 0.1 to 1.5 and a density of 0.957 to 0.970 g/cm^2; and

-a sufficient amount of a third PE selected from the group consisting of: linear low density PE's, linear medium density PE's, and mixtures thereof,

with the resins being present in the compositions in amounts such that the composition has a density of 0.945 to 0.960 g/cm^2, an MFI of 0.1 to 0.4 and a stress crack resistance of ≥24 hours.

Claim 44 covers a method for making a PE composition comprising [the step of?]: melt blending:

-a sufficient amount of a high molecular weight HDPE with a melt flow index (MFI) of 0.01 to 0.2 and a density of 0.941 to 0.958 g/cm^2;

-a homopolymer HDPE with an MFI of 0.1 to 1.5 and a density of 0.957 to 0.970 g/cm^2; and

-a sufficient amount of at least one PE selected from the group consisting of: linear low density PE's, linear medium density PE's, and mixtures thereof,

with the resins being present in the compositions in amounts such that the composition has a density of 0.945 to 0.960 g/cm^2, an MFI of 0.1 to 0.4 and a stress crack resistance of ≥24 hours.

Note: Teachings of melt blended polymers are deemed to suggest the step of melt blending.

Claim Objections

6. Claims 1-4, 6-15, 20-23, 25-26, 28 and 41-50 are objected to because of the following informalities: the "compositions" do not exhibit stress crack resistance. Articles made therefrom do.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-4, 7-15, 20-23, 25-26, 28 and 41-50 are rejected under 35 U.S.C. 102(b) as being anticipated by Herman et al (US 5,534,317).

Herman teaches a container made from a blend of two high density polyethylenes (HDPE's) having densities over 0.95 (col. 2, lines 58-1) and a linear low density polyethylene (LLDPE) with a density of 0.92-0.93 (col. 2, line 65 through col. 3, line 4) and an MI of less than 2.0 (col. 3, line 3). Recycled polyethylene can be used (abstract). Good stress crack resistance is attained (abstract).

Herman's blends contain 10-95% recycled polyethylene, 0-75% virgin HDPE and 2.5 –25% LLDPE (col. 2, lines 9-12). Some of his blends have environmental stress crack resistance (ESCR) values exceeding 24 (cols. 3-4, Table II)

ESCR is an art-recognized indicator of stress crack resistance.

The properties recited in applicants' claims but not recited by Herman would be inherent in the Herman compositions/containers because the same materials are employed to make them.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* v. *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

10. Claims 1-4, 6-15, 20-23, 25-26, 28 and 41-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Starita (US 6,6749,914) in view of Herman.

Starita teaches melt blended HDPE's with applicants' densities (claims 1-3 of patent) made into pipes with ESCR's over 24 hours (claim 4 of patent). The blends have good processability (abstract).

It fails to teach the claimed LLDPE.

Herman is discussed above.

The patents are analogous because they both deal with blended polyethylenes with good stress crack properties.

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ the blends of Herman in the compositions of Starita in order to improve the stress crack properties of articles made therefrom.

The motivation to employ the Herman blends in the pipes of Starita is found in Herman's abstract, where improved stress crack resistance is taught.

It is deemed desirable to make pipes with good stress crack resistance so that they will have longer useful lives.

Unimodal, bimodal and multimodal polyethylenes are conventional. Their use is a matter of obvious engineering choice, depending upon the properties desired in the finished articles.

11. Claims 1-4, 6-15, 20-23, 25-26, 28 and 41-50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Herman in view of Starita.

Herman, Starita and the analogous nature of their teachings are discussed above.

Herman fails to teach the recited density ranges for its HDPE's with and blends having densities in the ranges recited in applicants' claims.

Starita teaches HDPE's and compositions with the claimed ranges, as well as pipes having applicants' ESCR values.

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ Starita's HDPE's in the compositions of Herman in order to enhance the processability of the resin compositions.

The motivation to employ Starita's HDPE's in the Herman compositions is found Starita's abstract, where good processability is taught.

Unimodal, bimodal and multimodal polyethylenes are conventional. Their use is a matter of obvious engineering choice, depending upon the properties desired in the finished articles.

Double Patenting

12. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington,* 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

13. Claims 1-4, 6-15, 20-23, 25-26, 28 and 41-50 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims of U.S. Patent No. 6,749,914 in view of Herman.

The '914 patent and Herman are discussed above.

The '914 patent claims HDPE blends, but fails to claim LLDPE's in its blends.

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ the blends of Herman in the compositions/pipes of the '914 patent to improve the stress crack resistance thereof.

The motivation to use Herman's blends in the blends of the '914 patent is found in Herman's abstract, where improved stress crack resistance is taught.

It is deemed desirable to make pipes with improved stress crack resistance so that their useful lives may be longer.

Unimodal, bimodal and multimodal polyethylenes are conventional. Their use is a matter of obvious engineering choice, depending upon the properties desired in the finished articles.

14. Claims 1-4, 6-15, 20-23, 25-26, 28 and 41-50 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-22 of copending Application No. SN. 10/337,084 ("the '084 application") in view of Herman.

This is a provisional obviousness-type double patenting rejection.

The '084 claims (as recited in PG PUB 2003/0171492A1), cover resin blends containing applicants' HDPE blends and articles made therefrom having ESCR's of 24 hours or more.

The '084 claims do not cover the use of LLDPE's or blends containing them.

Herman is discussed above.

The '084 claims and Herman are analogous because they both deal with resin blends having improved stress crack properties.

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ the LLDPE's of Herman in the blends of the '084 application in order to improve the stress crack properties of articles made therefrom.

Also, it would have been obvious to one having ordinary skill in the art at the time of the invention to substitute the resin blends of Herman for the blends of the '084 application in order to improve the stress crack properties of articles made therefrom.

The motivation to employ the LLDPE's/blends of Herman in the compositions of the '084 claims is found in Herman's abstract, where improved stress crack properties are discussed.

It is deemed desirable to make articles/pipes with improved stress crack resistance so that their useful lives may be longer.

Unimodal, bimodal and multimodal polyethylenes are conventional. Their use is a matter of obvious engineering choice, depending upon the properties desired in the finished articles.

15. Claims 1-4, 6-15, 20-23, 25-26, 28 and 41-50 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12 of copending Application No. SN. 10/862,273 ("the '273 application") in view of Herman.

This is a provisional obviousness-type double patenting rejection.

The '273 claims (as recited in PG PUB 2005/0004316A1), cover resin blends containing applicants' HDPE blends and articles/pipes made therefrom having ESCR's of 24 hours or more.

The '273 claims do not cover the use of LLDPE's or blends containing them.

Herman is discussed above.

The '273 claims and Herman are analogous because they both deal with resin blends having improved stress crack properties.

It would have been obvious to one having ordinary skill in the art at the time of the invention to employ the LLDPE's of Herman in the blends of the '273 application in order to improve the stress crack properties of articles made therefrom.

Also, it would have been obvious to one having ordinary skill in the art at the time of the invention to substitute the resin blends of Herman for the blends of the '273 application in order to improve the stress crack properties of articles made therefrom.

The motivation to employ the LLDPE's/blends of Herman in the compositions of the '273 claims is found in Herman's abstract, where improved stress crack properties are discussed.

It is deemed desirable to make articles/pipes with improved stress crack resistance so that their useful lives may be longer.

Unimodal, bimodal and multimodal polyethylenes are conventional. Their use is a matter of obvious engineering choice, depending upon the properties desired in the finished articles.

Response to Arguments

16. Applicant's arguments with respect to claims 1-4, 6-15, 20-23, 25-26, 28 and 41-50 have been considered but are moot in view of the new ground(s) of rejection.

Citation as of Interest

17. JP 60031938A (abstract published 18 February 1985) is cited for teaching the use of low density polyethylenes to improve the stress crack resistance of high density polyethylenes with which they are melt blended.

Conclusion

Any inquiry concerning this communication should be addressed to Sandra M. Nolan-Rayford, at telephone number 571/272-1495. She can be reached Monday through Thursday, from 6:30 am to 4:00 pm, ET.

If attempts to reach the examiner are unsuccessful, contact her supervisor, Harold Pyon, at 571/272-1498.

The fax number for patent application documents is 703/872-9306.

S. M. Nolan-Rayford
Primary Examiner
Technology Center 1700

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